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TCS-1643-63/KH
24 June 1963

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MEMORANDUM FOR THE RECORD

SUBJECT: Comments on Brockway McMillan Memorandum
of 23 May 1963

1. What is a "bit of information"? Is it the smallest object one can identify, the smallest object one can detect, the smallest "blob" one can measure, the smallest identified object one can measure to within a given per cent of its true size, or the smallest line space combination one can detect? I have been trying to define a "bit of information" but so far have not arrived at what I consider a satisfactory definition. I kept returning to a direct relationship with ground resolution or lines per m m, which if I understand correctly, is what the memorandum suggests we get away from.

2. Regardless of the final definition of a "bit of information" I am not sure that any hard fast figure can be applied directly to operational photography. In the laboratory under controlled conditions one can determine, and report by several different methods, what photographic results can be expected from a given camera system. But when the system leaves the controlled environment of the laboratory to become operational it moves into an environment of many varying conditions and may or may not function within the expected, pre-determined perimeters.


3. Within TID we are attempting to determine information somewhat similar to that requested in the reference memorandum, but more directly related to measuring accuracy. For select areas in the U.S. we are planning to obtain building plans and/or engineering drawings of various installations. Using these as our base and check factor we plan to conduct a series of measurements on objects of known size and shape. The measurements we obtain will be checked against the known size of the object. For that moment in time, under the conditions existing at that moment, we will be able to determine a percent of measurement accuracy. It is our objective to establish, over a period of time, an indication of how well we are able to measure objects of various size and shape under operating conditions known at the time the measurement was taken. It is not our objective to try and define the resolving capabilities of any collection system, or to state what it will or will not photograph, but I do think we will end up with a better insight to our measurement accuracy and measuring capabilities under various operating conditions.

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4. In my opinion there is not a set or established amount of film that a PI can handle in one day. There are too many different types of PI work along with many other variables, some of which include the PI himself, the camera system involved, the type of analysis he is performing, the amount of detail imaged on the film, the weather, the type of viewing equipment in use and many others. As close as one may get to this answer is an average of OAK or MCI time.

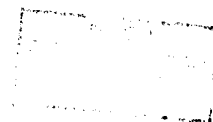

Chief, Technical Intelligence Division

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